Determination of Public Land (Rangeland) Health for 64076 ROSENDO CASAREZ

The Record of Decision (ROD) for the New Mexico Standards for Public Land Health and Guidelines for Livestock Grazing Management (dated January 2001) adopted three Standards for Public Land Health. These are (1) Upland Sites Standard, (2) Biotic Communities, Including Native, Threatened, Endangered, and Special Status Species Standard and (3) Riparian Sites Standard.

The ROD also established a process for the BLM Field Offices for the implementation. Through a public participation process, the Roswell Field Office developed and adopted indicators to use in conjunction with existing monitoring data to assess these standards.

Field assessment worksheets and other available data that evaluate the local indicators were completed for this allotment. Based on the assessments, it is my determination that the public land within the Rosendo Casarez allotment #64076 meets the Upland Sites standard and (2) Biotic Communities, including Native, Threatened, Endangered and Special Status Species standard. There are no public land riparian areas on this allotment, therefore this standard was not addressed.

/s/ T. R. KREAGER	07/21/2004
Assistant Field Manager	Date

Standards of Public Land Health
Evaluation of 64076 ROSENDO CASAREZ Allotment
[05/24/2004]

The Roswell Field Office conducted rangeland health assessments at one (1) study site within the Rosendo Casarez Allotment #64076. The assessments looked at the Soil/Site Stability, Hydrologic Function and Biotic Integrity indicators within the vicinity of each study site. Existing monitoring data was incorporated into and in support of the field assessment. The summary of each assessment is attached and shown in the following table.

Study Area or Assessment Area	UPLAND			BIOTIC			RIPARIAN		
	Meets	Monitor an Indicator	Does Not Meet	Meets	Monitor an Indicator	Does Not Meet	Meets	Monitor an Indicator	Does Not Meet
64076-SOUTH-F059 (*)	X			X			N/A		

Twenty-two indicators for Rangeland Health were evaluated for the public land on the Rosendo Casarez allotment #64076. Ten of these assessed soil site stability, 11 hydrologic function and 13 biotic integrity. These qualitative assessments in conjunction with quantitative information gathered from previous monitoring data collected on one range trend plot within the allotment were utilized to make rangeland health determinations. Quantitative evaluations are performed by the Roswell Field Office, which include some or all of the following: ground and vegetative cover and composition, production, frequency and ecological condition. These collections which were initiated in the late 1970's/early 1980's, are scheduled and conducted approximately every 5 years.

The dry conditions occurring over the last several years has impacted this allotment and surrounding area. The ecological site is classified as a shallow SD-3 with a Tencee-Upton soil complex occurring on elevations of 4,200 ft. or 1273 m. Slopes are 0-9% on mostly hilly upland ridges with a gravelly influence west of the Pecos River. The site encompasses 1,560 ac/650 ha on gently rolling hills approximately 1/2 mile south of Highway 13.

The indicators assessed for South Pasture primarily rated in the none to slight to slight to moderate category. An indicator of concern is soil surface resistance to erosion. The soil site stability test indicated the interspace sample eroded moderately as compared to under the canopy. Due to the rocky and gravelly influence the majority of ground cover is made up of this stratum. The functional/structural groups also rate as Moderate. The number of F/S groups has been reduced. Black grama (Bouteloua eriopoda), sideoats (Bouteloua curtipendula) and bush muhly (Muhlenbergia porteri) are not in abundance as indicated

by the long-term datum. Creosote (Larrea tridentata) and acacia (Acacia spp.) are taking over the site and are reproducing in a healthy manner as evidenced by the flowering activity. There is however some production and grass cover with threeawn (Aristida spp.) and other less desirable species such as burrograss (Scleropogon brevifolius) in a few areas. Approximately 1/3 of the annual production is on site and a more quantitative approach may be necessary if the dry conditions persist. Annual production as a result rates moderate. Skunkbush (Rhus spp.) can be found mostly in the drainages and low depressional areas and will continue to provide browse for wildlife. Invasive plants rates at moderate to extreme with creosote common throughout the site. The water holding capacity of this gravelly site may be the feature that is keeping it from becoming degraded further. Physical crusting is quite evident and holding the soil in place.

Hydrology - Pasture South - Soil surface resistance to erosion rated in the moderate category. The interspaces are not as resistant to melting as the compaired to the undercanopy. Organic matter is lacking in the interspaces. The rills, water flow patterns, pedestals and/or terracettes, bare ground, gullies, wind scoured, blowouts, and or deposition areas, litter movement, soil surface loss or degradation, plant community composition and distribution relative to infiltration and runoff, compaction layer, litter amount, and physical/chemical/biological crusts indicators have rated as none to slight or slight to moderate. Sand and gravel deposits of Quaternary pediment deposits and Quaternary terrace gravel deposits outcrop in the area.

Wildlife - Evaluation of the integrity of the biotic community considered several indicators as attribute indices for the area of interest. Biotic indicators are interrelated with several other indicators, including soil/site stability, hydrologic function, and vegetation. Several indicators are singularly biotic and address the vegetative aspect of the ecological site description, such as annual production, invasive plants, and reproductive capability of perennial plants, as discussed above. Specifically, two biotic indicators fell within the Moderate rating, functional/structural groups and annual production. One indicator rated as moderate to extreme, invasive plants - primarily creosote. Considering present climate regimes, the annual production indicator can be expected to fall within the normal range of variability. Range condition (based on production) appears to have declined over the years, even when considering the drought conditions that has prevailed over the past several years. Browse species can still be found in the drainages that characterize the Felix River breaks. As the area of interest falls within an ecotone between the Chihuahuan desert and grasslands biome, desert shrub components can be expected in the area and has increased with declining range site conditions and overall drying conditions over time, especially on the shallow soils.

Wildlife Habitat and Population indicators rate None to Slight, primarily for desert mule deer (Odocoileus hemionus), pronghorn and a variety of non-game terrestrial species. The composition of vegetation reflects the very shallow range site, current climatic conditions, e.g., drought for the past several years, the area being within an ecotone of the Chihuahuan desert and grasslands. Habitat conditions appear marginal due to the lack of ground cover and the increase in creosote, although the drainages found throughout the site provide microhabitats for a variety of terrestrial species. Rangeland conditions must

be closely monitored to detect any further downward trend, exclusive of the impacts of ongoing climatic conditions (drought). The potential to improve rangeland conditions exists especially when timed with adequate precipitation and vegetation reproduction. With respect to Special Status Species, none are known to occur in the area of interest at this time and the Habitat and Population indicators are, therefore, rated None to Slight.

It is the professional opinion of the Assessment Team that the public land within the South Pasture of the Rosendo Casarez allotment #64076 meets the Upland and Biotic standards. There are no Riparian issues present, therefore this standard was not addressed. See recommendations and site notes for further information regarding this ecological site.

The (*) indicates that the assessment had one or more indicator(s) rated moderate/extreme or extreme. These indicators are:

- Invasive Plants

These indicators by themselves are not enough to rate the site as not meeting a standard but may warrant future monitoring.

Recommendations: Monitoring should continue as scheduled by the Roswell Field Office. With dry conditions having a major influence on the site, a closer look at the gullying activity occurring on the two-track leading to the plot may ne necessary. vegetation is however still stabilizing the channels as long as they remain minor. If they become areas of larger headcuts and nick points, then there may be problems with erosional activity. There is some livestock on the lowlands and the distribution of waters is adequate. If creosote (Larrea tridentata) continues to encroach and there is no evidence that it will not , then a future brush treatment with herbicides may curtail some of this problem. However the timing of treatment must coincide with favorable precipitation events to be feasible.

RFOs Upland and Biotic Standard Assessment Summary Worksheet			
SITE 64076-SOUTH-F059			
Legal Land Desc	SWNE 26 0140S 0230E Meridian 23	Acreage	1560
Ecosite	042CY025NM SHALLOW SD-3	Photo Taken	Y
Watershed	13060009040 FELIX		
Observers	NAVARRO/FRENCH	Observation Date	05/24/2004
County Soil Survey	NM666 CHAVES SOUTH	Soil Var/Taxad	
Soil Map Unit	Tg	Soil Taxon Name	TENCEE
Texture Class	NM666 GR-L	Soil Phase	TENCEE-UPTON
Texture Modifier	NM666 GRAVELLY LOAM		
Observed Avg Annual Precipitation		Observed Avg Growing Season Precipitation	
NOAA Annual Precipitation	8.59	NOAA Growing Season Precipitation	6.47
NOAA Avg Annual Precipitation	12.5	NOAA Avg Growing Season Precipitation	10.3
Disturbances and Animal Use:	Some cattle use can be seen in the pasture leading up to the study area.		

Part 2. Attributes and Indicators

		Departure from Ecological Site Description/Ecological Reference Areas				
Attribute	Indicators	Extreme	Moderate to Extreme	Moderate	Slight to Moderate	None to Slight
S H	Rills					X
Comments:						
S H	Water Flow Patterns				X	
Comments:						
S H	Pedestals and/or Terracettes				X	
Comments:	Some pedestaling.					

S H	Bare Ground				X	
Comments:	Now estimated at 25%. Most ground cover is rock.					
S H	Gullies					X
Comments:	On roads only leading to the study. Otherwise it is too rocky for gullies.					
S	Wind-scoured, Blowouts, and/or Deposition Areas				X	
Comments:						
H	Litter Movement				X	
Comments:						
S H B	Soil Surface Resistance to Erosion			X		
Comments:	Interspace is not as resistant as canopy.					
S H B	Soil Surface Loss or Degradation				X	
Comments:	Some horizon lost due to wind and rock and gravel being prominant.					
H	Plant Community Composition and Distribution Relative to Infiltration and Runoff				X	
Comments:	Only slightly affects.					
S H B	Compaction Layer					X
Comments:						
B	Functional/Structural Groups			X		
Comments:	Moderate reduction in species and number.					
B	Plant Mortality/Decadence					X
Comments:						
H B	Litter Amount				X	
Comments:	Now at 5-10%, which falls within the expected range.					

B	Annual Production			X		
Comments:	Estimation of only 1/3 of long-term average and ESD average.					
B	Invasive Plants		X			
Comments:	Creosote (Larrea tridentata) and acacia (Acacia spp.) have encroached.					
B	Reproductive Capability of Perennial Plants				X	
Comments:	Capability only slightly limited.					
S	Physical/Chemical/Biological Crusts				X	
Comments:	Physical crust is evident, but continuity is broken.					
B	Wildlife Habitat				X	
Comments:	A rolling hills desert grassland with sparse grasslands and creosote bush on shallow soils. Includes the breaks between the uplands and the Rio Feliz drainage to the north.					
B	Wildlife Populations				X	
Comments:	No specific wildlife population data at this time. Species of concern include desert mule deer, pronghorn antelope and a variety on terrestrial non-game wildlife species, including raptors.					
B	Special Status Species Habitat					X
Comments:	None known to occur.					
B	Special Status Species Populations					X
Comments:	None known to occur.					
Part 3. Summary						
A. Indicator Summary - Each of the indicators are associated with one or more of the attributes below. An indicator is placed in a category (columns) above and summed for each of the Standard Attributes.						
Standard Attribute		Extreme	Moderate to Extreme	Moderate	Slight to Moderate	None to Slight

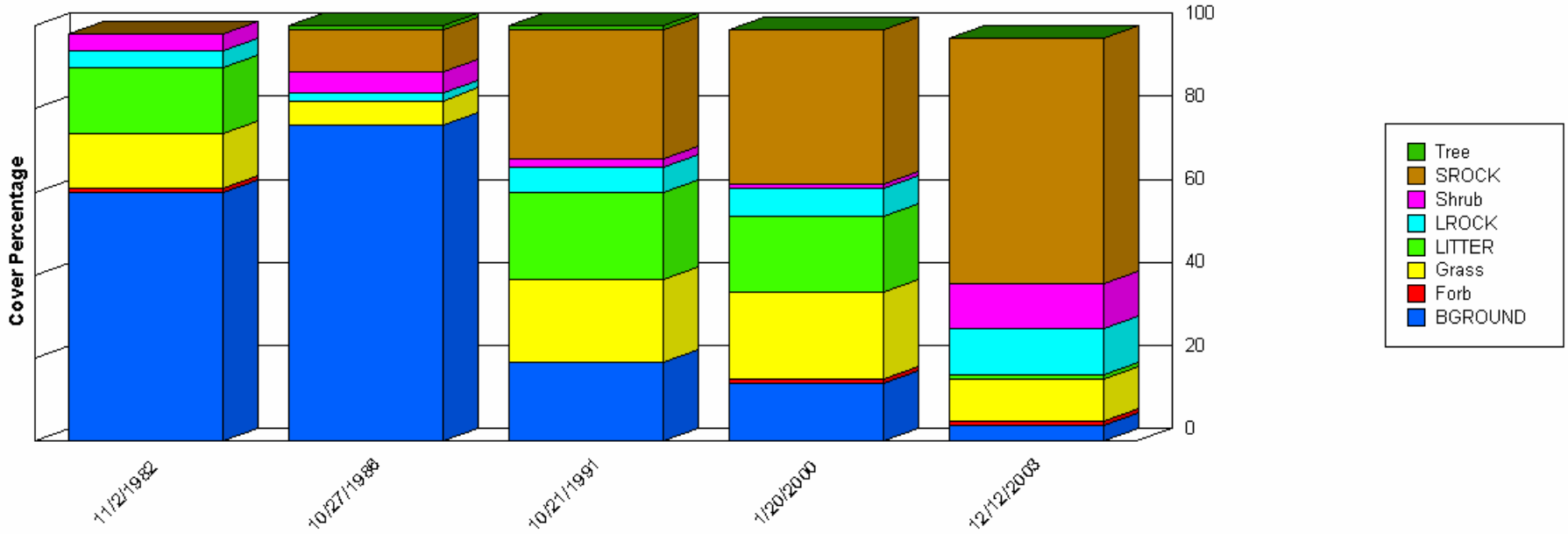
S	Soil	0	0	1	6	3
H	Hydrologic	0	0	1	7	3
B	Biotic	0	1	3	5	4

B. Attribute Summary. In this table, the Extreme and Extreme to Moderate columns in the table above are merged for the *Does not Meet* column, Moderate becomes *May Need More Info*, and Slight to Moderate and None to Slight merge to form the *Meets* columns. Values from the table are summarized below. Space is provided for rationale of the determination. This space should most certainly be used when the determination by the ID team conflicts with the summarized values. Provide the sources of information that lead to the determination. X out the appropriate box for each attribute to denote final agreed upon determination by the ID team.

Attribute	Rationale	Does Not Meet	May Need More Info	Meets
Soil	Although there is limited growth, this shallow site remains in fairly stable condition in regards to soil protection. The gravelly aspect should hold more water for infiltration as oppossed to runoff.	0	1	9
Hydrologic	Again the water holding capacity of this gravelly site continues to curb any additional resource damage.	0	1	10
Biotic	The biotics of this ecological site are in fairly good standing considering the amount of creoste (Larrea tridentata) encroachment. Acacia (Acacia spp.) is also found on site but in lesser amounts.	1	3	9

Site Notes: This upland site is good habitat for wildlife and provides adequate forage on the lower reaches leading up to the ecological site under assessment. The pasture's attributes should not be discounted however due to the gradual climb in elevation and drainages associated with the entire site. Storage for water is operational as the troughs are full. Photographs were taken of the transects and trend plot.

Ground Cover Trends



	11/2/1982	10/27/1986	10/21/1991	1/20/2000	12/12/2003
BGROUND	60.00	76.00	19.00	14.00	4.00
Forb	1.00	0.00	0.00	1.00	1.00
Grass	13.00	6.00	20.00	21.00	10.00
LITTER	16.00	0.00	21.00	18.00	1.00
LROCK	4.00	2.00	6.00	7.00	11.00
Shrub	4.00	5.00	2.00	1.00	11.00
SROCK	0.00	10.00	31.00	37.00	59.00

	11/2/1982	10/27/1986	10/21/1991	1/20/2000	12/12/2003
Tree	0.00	1.00	1.00	0.00	0.00
Total	98.00	100.00	100.00	99.00	97.00

Report Parameters

SITE NAME LIKE	64076-SOUTH-F059
ON/AFTER	10/01/1982
ON/BEFORE	09/30/2004

Functional / Structural Groups

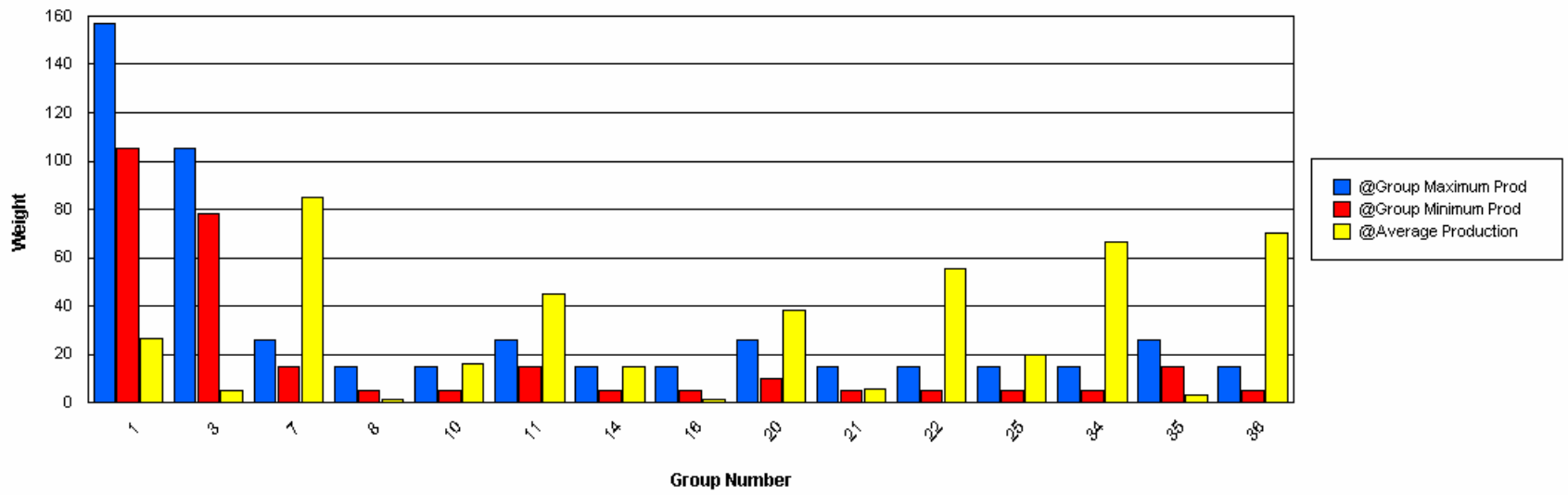
Report Parameters

SITE NAME LIKE	64076-SOUTH-F059
ON/AFTER	10/01/1982
ON/BEFORE	09/30/2004
MIN LBS TO GRAPH	1
SELECTED ECOSITE	042CY025NM

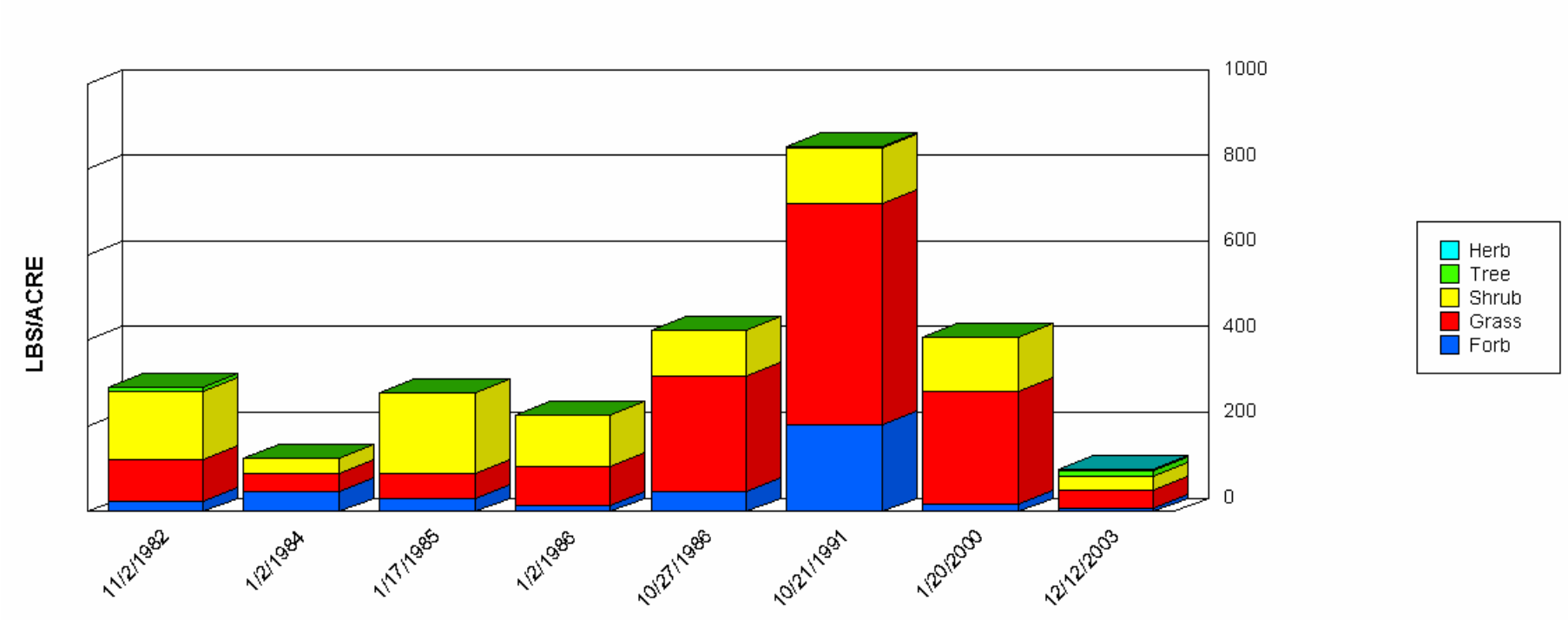
Group	Plant Type	Species	Low Wt Allowed	High Wt Allowed	Minimum	Maximum	Average	STDEV
1	Grass	BOER4	105	157	0.00	70.00	26.29	26.67
2	Grass	BOCU	78	105	0.00	4.00	0.86	1.46
3	Grass	BOGR2	78	105	0.00	17.00	4.33	6.83
3	Grass	BOHI2	78	105	0.00	4.00	0.86	1.36
7	Grass	TRMU	15	26	0.00	170.00	43.50	59.91
7	Grass	TRPI2	15	26	0.00	111.00	41.57	32.39
8	Grass	MUAR	5	15	0.00	5.00	1.50	2.12
10	Grass	ERPU8	5	15	0.00	52.00	16.38	15.55
11	Grass	ARIST	15	26	0.00	25.00	6.25	7.89
11	Grass	HIMU2	15	26	0.00	22.00	6.18	7.48
11	Grass	MUAR2	15	26	0.00	42.00	13.00	17.23
11	Grass	SCBR2	15	26	0.00	51.00	19.63	18.97
14	Grass	LYPH	5	15	0.00	21.00	10.50	10.50
14	Grass	MUTO2	5	15	0.00	8.00	4.00	4.00
14	Grass	PAHA	5	15	0.00	3.00	0.57	1.05
16	Forb	SENEC	5	15	0.00	6.00	1.33	2.21
18	Forb	LESQU	5	15	0.00	5.00	0.83	1.86
19	Forb	CABA6	5	15	0.00	2.00	0.33	0.75
20	Forb	CROTO	10	26	0.00	56.00	12.98	16.99
20	Forb	DYAC	10	26	0.00	0.00	0.00	0.00
20	Forb	PSTA	10	26	0.00	1.00	0.17	0.37
20	Forb	VERBE	10	26	0.00	3.00	0.50	1.12
20	Forb	ZIGR	10	26	1.65	47.00	24.33	22.68
21	Forb	AAFF	5	15	0.19	5.00	2.74	1.62
21	Forb	BRASS2	5	15	0.00	1.00	0.17	0.37
21	Forb	COLDE	5	15	0.00	10.00	1.86	3.48

Group	Plant Type	Species	Low Wt Allowed	High Wt Allowed	Minimum	Maximum	Average	STDEV
21	Forb	PECTI	5	15	0.00	5.00	0.71	1.75
22	Forb	AMBRO	5	15	0.00	4.00	0.67	1.49
22	Forb	ANTEN	5	15	0.00	2.00	0.67	0.94
22	Forb	CHAMA8	5	15	0.00	17.00	2.86	5.87
22	Forb	COCA2	5	15	0.00	9.00	2.72	3.34
22	Forb	ERIGE2	5	15	0.00	6.00	1.20	2.40
22	Forb	ERODI	5	15	0.00	0.00	0.00	0.00
22	Forb	ERTE13	5	15	0.00	13.00	3.39	4.51
22	Forb	HOGL2	5	15	0.00	2.00	0.57	0.73
22	Forb	MELE2	5	15	0.00	12.00	4.57	5.42
22	Forb	PPFF	5	15	0.16	77.00	38.58	38.42
22	Forb	SOEL	5	15	0.00	0.00	0.00	0.00
25	Shrub	LADI2	5	15	0.00	56.00	20.00	19.99
34	Shrub	GUSA2	5	15	0.00	175.00	66.57	59.70
35	Shrub	EPHED	15	26	0.00	5.00	3.00	2.16
36	Shrub	ACACI	5	15	0.00	17.00	7.60	7.50
36	Tree	ACGR	5	15	0.00	11.33	3.04	4.71
36	Shrub	ALWR	5	15	0.00	34.00	17.00	17.00
36	Shrub	ARLU2	5	15	0.00	3.00	0.43	1.05
36	Shrub	COCA17	5	15	0.00	55.00	26.67	22.48
36	Shrub	DAFO	5	15	0.00	8.00	2.58	2.77
36	Shrub	DYPE3	5	15	0.00	38.00	12.67	17.91

Group	Plant Type	Species	Low Wt Allowed	High Wt Allowed	Minimum	Maximum	Average	STDEV



Production Lbs/Acre Trends



	11/2/1982	1/2/1984	1/17/1985	1/2/1986	10/27/1986	10/21/1991	1/20/2000	12/12/2003
Forb	**25.00**	**48.00**	**31.00**	**14.00**	**47.00**	**203.00**	**19.00**	**9.00**
Grass	**98.00**	**41.00**	**58.00**	**92.00**	**270.00**	**516.00**	**263.00**	**40.52**
Herb	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**2.64**
Shrub	**157.00**	**37.00**	**188.00**	**119.00**	**107.00**	**132.00**	**125.00**	**34.43**
Tree	**11.00**	**0.00**	**0.00**	**0.00**	**1.00**	**1.00**	**0.00**	**11.33**
Total	**291.00**	**126.00**	**277.00**	**225.00**	**425.00**	**852.00**	**407.00**	**97.92**

Report Parameters

SITE NAME LIKE	64076-SOUTH-F059
ON/AFTER	10/01/1982
ON/BEFORE	09/30/2004

NM060

Date Printed: 4/15/200

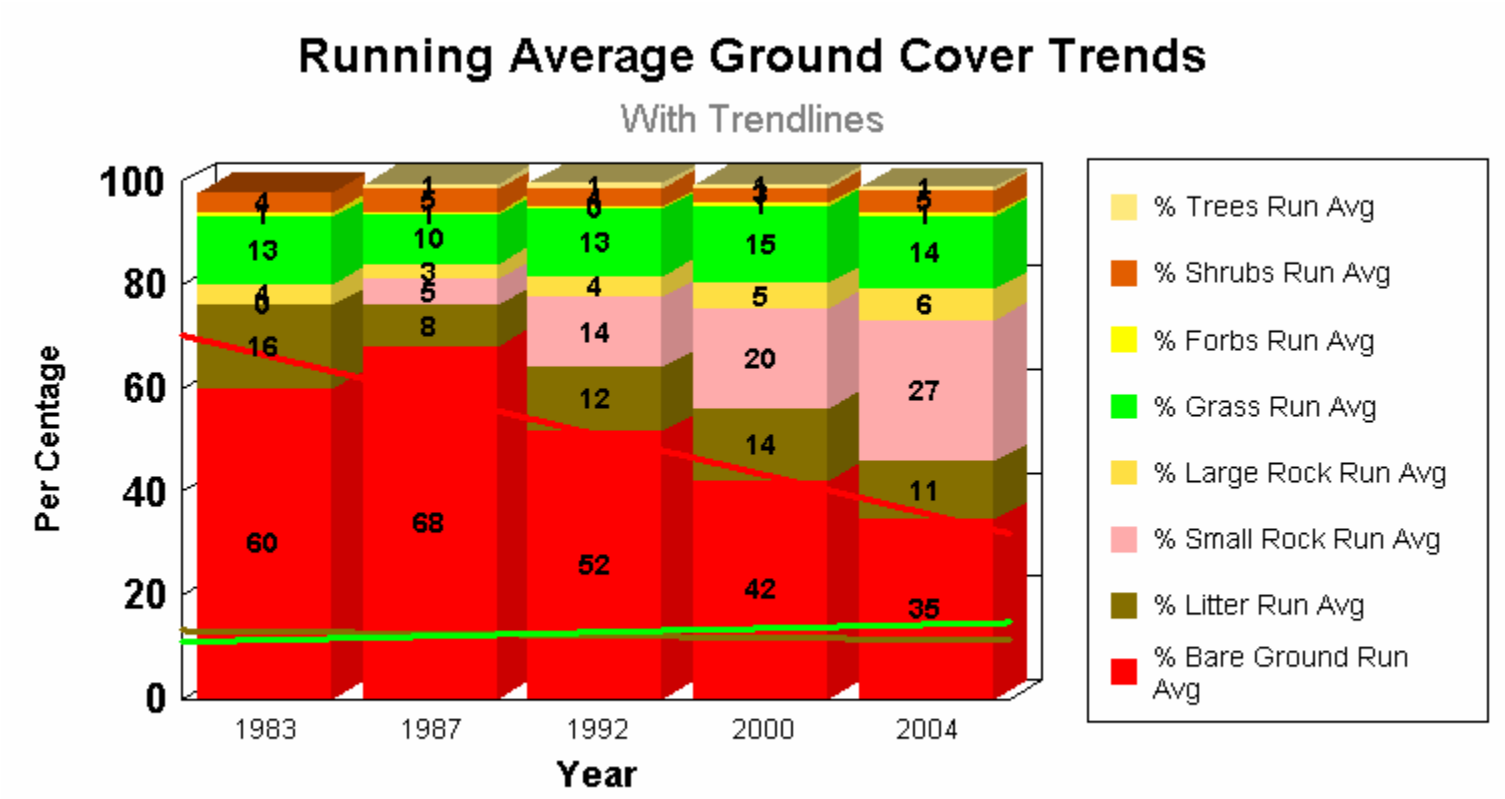
64076 ROSENDO CASAREZ SOUTH

Vegid#: 802

64076-SOUTH-F059 Ecological Site No.: 042CY025NM

Location: Township: 0140S Range 0230E Section 26 QtrQtr: SWNE

Year	Bare Ground	Litter	Small Rock	Large Rock	Forbs	Grass	Shrubs	Trees	Running Average Bground	Running Average Litter	Running Average Srock	Running Average Lrock	Running Average Forb	Running Average Grass	Running Average Shrubs	Running Average Trees
1983	60.00	16.00	0.00	4.00	1.00	13.00	4.00		60.00	16.00	0.00	4.00	1.00	13.00	4.00	
1987	76.00	0.00	10.00	2.00	0	6.00	5.00	1.00	68.00	8.00	5.00	3.00	0.50	9.50	4.50	1.00
1992	19.00	21.00	31.00	6.00	0	20.00	2.00	1.00	51.67	12.33	13.67	4.00	0.33	13.00	3.67	1.00
2000	14.00	18.00	37.00	7.00	1.00	21.00	1.00	0.00	42.25	13.75	19.50	4.75	0.50	15.00	3.00	0.67
2004	4.00	1.00	59.00	11.00	1.00	10.00	11.00	0.00	34.60	11.20	27.40	6.00	0.60	14.00	4.60	0.50



Production (lbs/ac) Data

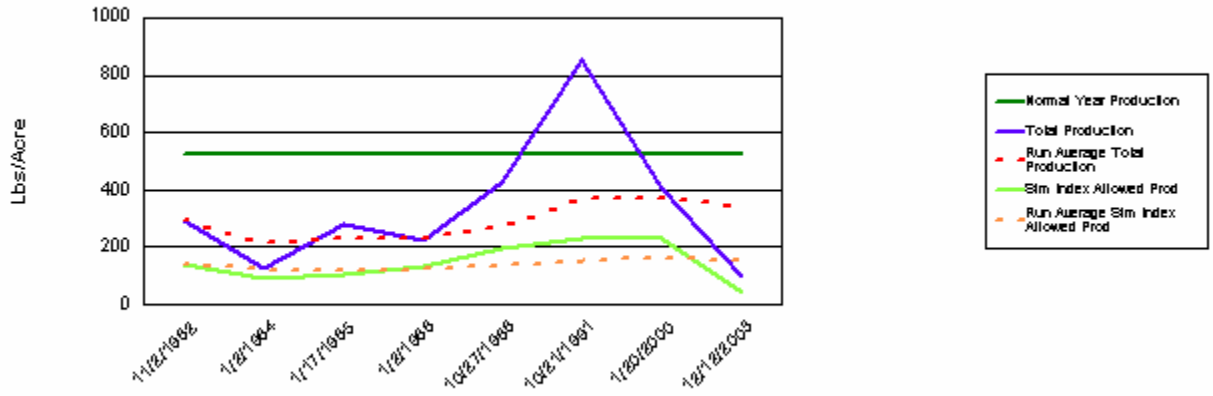
VEGID: 802

64076 ROSENDO CASAREZ 64076-SOUTH-F059

SHALLOW SD-3 042CY025NM

Date	Range Cond.	Similarity Index	Normal Year Production	Total Production	Running Average Production	Sim Index Allowed Production	Running Average Sim Index Allowed Production
11/02/1982	33.75	26.67	525	291.00	291.00	140.00	140.00
01/02/1984	34.11	18.10	525	126.00	208.50	95.00	117.50
01/17/1985	27.24	19.62	525	277.00	231.33	103.00	112.67
01/02/1986	37.22	25.71	525	225.00	229.75	135.00	118.25
10/27/1986	40.13	36.76	525	425.00	268.80	193.00	133.20
10/21/1991	39.00	44.19	525	852.00	366.00	232.00	149.67
01/20/2000	49.51	43.43	525	407.00	371.86	228.00	160.86
12/12/2003	25.31	17.70	525	97.92	337.62	44.26	146.28

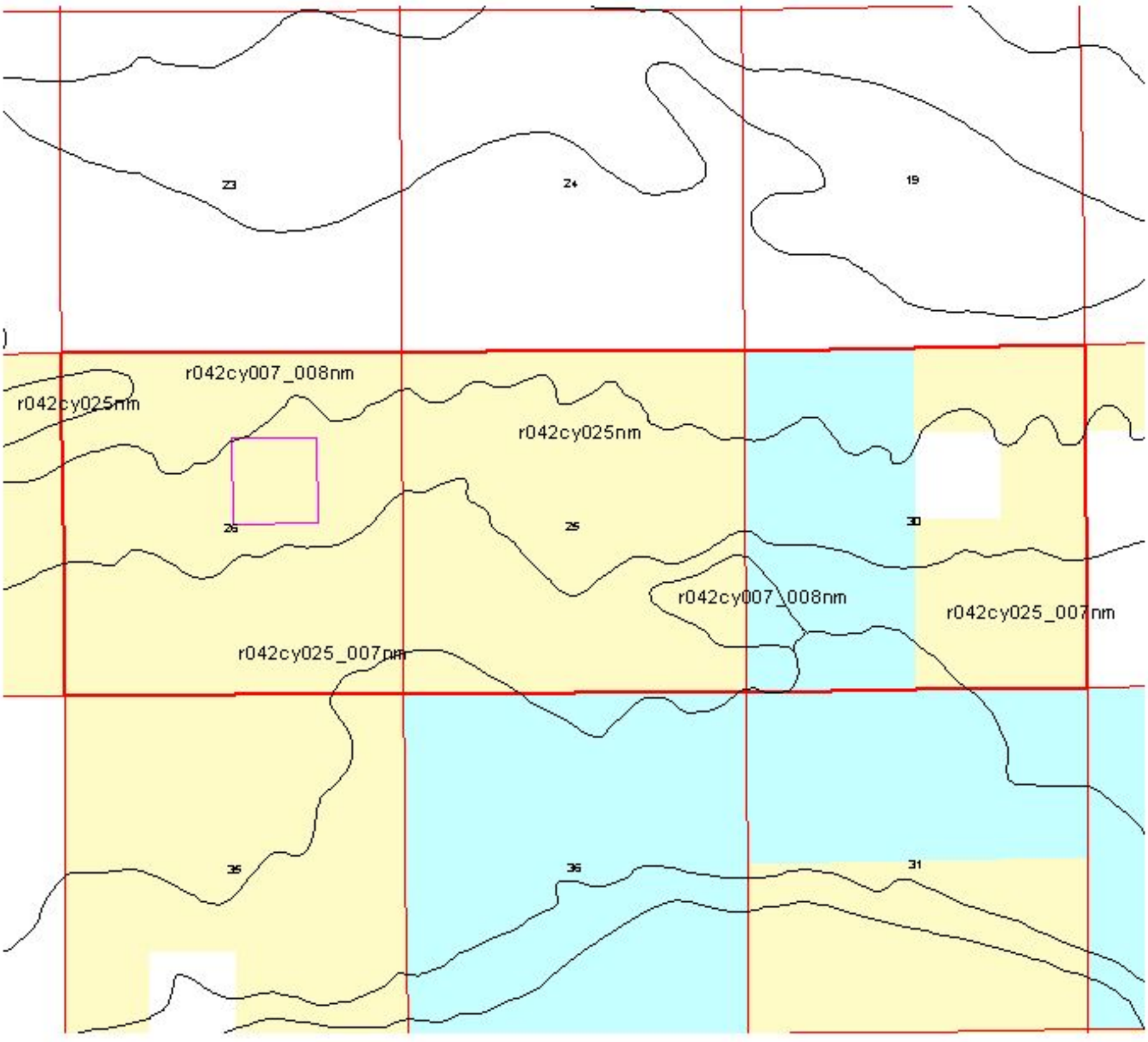
Production Data For Study Site



Rangeland Health Assessment
Ecological Sites

Allotment 64076

T14.R23E



T14S.R24E

0.3 0 0.3 Miles

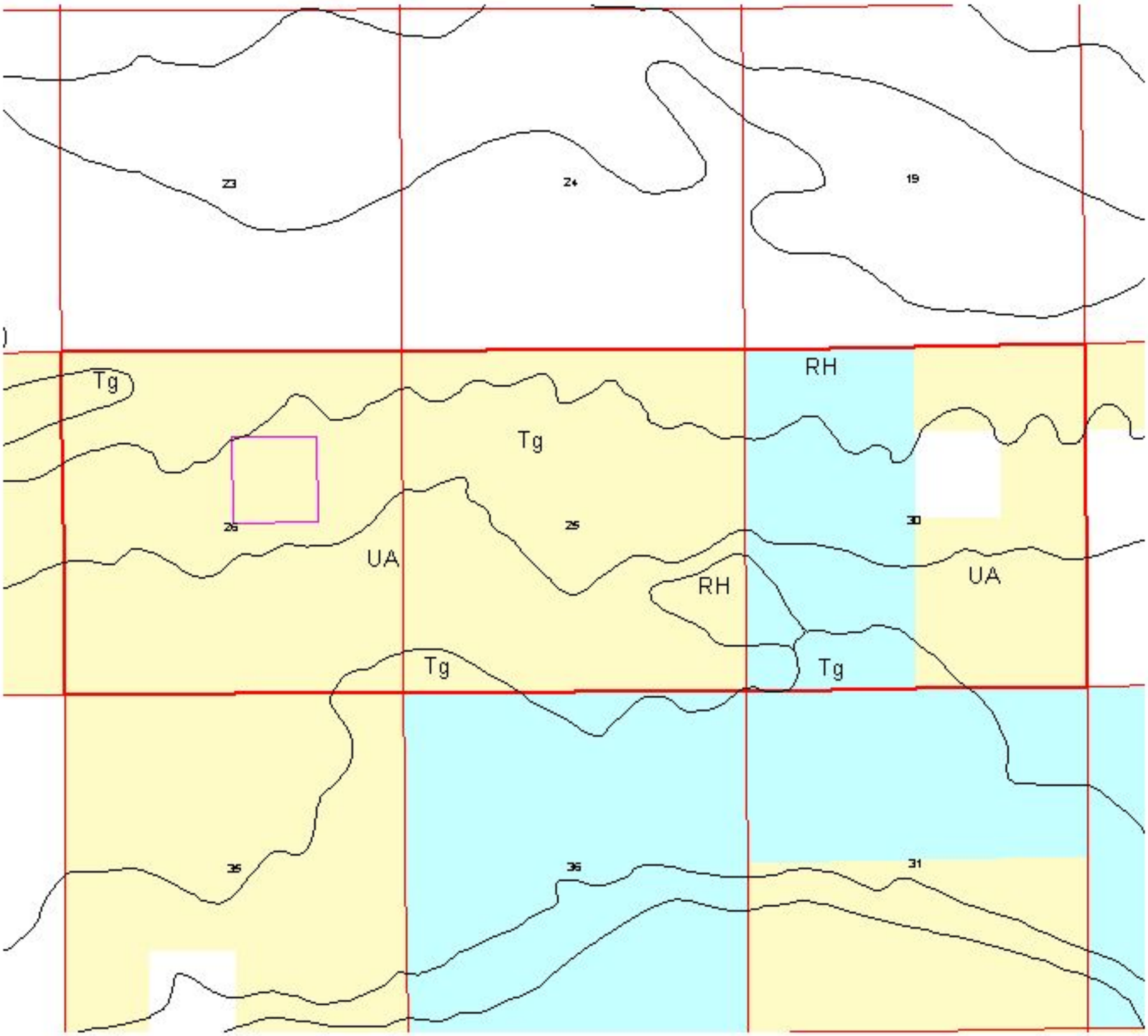
Public
Study Plots
State
Private
Study Locations
Ecological Sites
Allotment Boundary

Produced by the Roswell Field Office
GIS Intern on July 25, 2003.

Rangeland Health Assessment
Soil Mapping Units

Allotment 64076

T14.R23E



T14S.R24E

0.3 0 0.3 Miles

Public
Study Plots
State
Private
Study Locations
Soil Mapping Units
Allotment Boundary

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